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## APPLICATION OF PATENT OF INVENTION

A1

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(71) Applicant(s): *Company: PLASTO (S.A.) - FR*(72) Inventor(s): *Gullemet Alain.*(43) Laid Open Date of the Application: January 17, 1992  
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report: *Please refer to the end of the present  
document.*

(73) Owner(s):

(60) References to other national related documents:

(74) Attorney(s): *S.A. Fedit-Loriot & Other Counsels in  
Industrial Property*(54) ~~Safety Double Face~~ Adhesive Tape(57) The present invention relates to a double face adhesive  
tape made up with low cohesion support and coated on each  
one of its two surfaces with adhesive whose adhesion power  
is greater than the support cohesion as well as its use as  
safety tape.

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### Safety double face adhesive tape.

The present invention subject is a double face adhesive tape allowing one to reveal the separation or the opening with breaking of substrates united or closed by said adhesive tape.

It is known, from US patent No. 4.876.123, a safety adhesive tape whose stratified support is separated into two parts during tearing while allowing appearing an indication of the opening.

Safety double face adhesive tape according to the invention is distinct from prior art tape by the fact that it is made up with cleavable mono-layer support.

Safety double face adhesive tape according to the invention is characterized by the fact that it is made up with low cohesion support, coated on each one of its two surfaces with adhesive whose adhesion power is greater than the support cohesion.

Separation and/or opening is revealed with the cleavage of the support into two parts which can not be bonded to themselves again. In fact, when there is an attempt to tear the substrates united by the safety double face adhesive tape, the latter is not torn with the substrates but it divides the substrates according to a median plane parallel to the surfaces coated with adhesive, into two parts which can not be bonded to themselves again.

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This cleavage is made possible with the use of a support band whose internal cohesion is lower than the tape adhesion power on substrates to which it is bonded.

According to an embodiment of the invention, the support is made up with synthetic foam band of the low cohesion packaging foam type due to a low curing of the foam. So, low density and low curing polyethylene or polyurethane foams, low cohesion non-woven and in general any support allowing one to obtain a band cleavable into two parts in the thickness direction, will be advantageously used.

According to a preferred embodiment of the invention, support band has, before coating, a thickness ranging between 0.5 mm and 1.5 mm.

Support band is alternately coated on the surface with adhesive on each one of its surfaces using coating techniques utilized in the adhesive field.

Adhesives in use are, adhesives known by the man of the art and for example an adhesive mass made up with a mixture of synthetic elastomers and natural elastomers.

Safety double face adhesive tape is advantageously protected with anti-adhering protective liners, for example double face silicone protective liners allowing one to roll the tape on itself.

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In order to make the separation and/or the breaking more visible, it is advantageously possible to dye the adhesive mass coated on the support. By using two different colors, especially complementary colors, an uniform adhesive tape is obtained before the cleavage, separating itself into two parts with different colors. For example, one face of the adhesive mass is dyed in yellow and the other face of the adhesive mass in red or blue. So, a double face adhesive tape is obtained, which appears colored in green or in orange before cleaving and being separated into two parts, one part of which will be colored in yellow and the other in red or in blue.

Other advantages and characteristics of the invention will be better understood with the reading and the description of annexed figures which illustrated a preferred embodiment of the invention.

Figure 1 is a cross-sectional view of a double face adhesive tape according to the invention.

Figure 2 is a cross-sectional view of an example of the use of double face adhesive tape according to the invention as device for sealing a bag before its closing.

Figure 3 is a cross-sectional view of a double face adhesive tape according to the invention after the bag closing.

Figure 4 is a cross-sectional view of a double face adhesive tape according to the invention after the opening of the bag.

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Support 2 is a non-cured extruded polyethylene foam band of 1 mm thick. Necessary force for cleaving this band is 0.25 N/cm.

Adhesive masses 3 and 4 are made up with a mixture of synthetic elastomers and natural elastomers whose adhesion on paper is 0,4 N/cm (measurement of adhesion according to the A.F.E.R.A, method (Association of European Manufacturers of Adhesive Tape). Adhesive mass 3 is dyed in blue and adhesive mass 4 is dyed in yellow. Tape 1 appears in green color.

A silicon protective liner 5 on both surfaces protect the tape and allows one to roll the tape on itself.

Tape 1 is bonded with its adhesive mass 3 at the proximity of the closing area of bag 6, protective liner 5 being kept in place to avoid an accidental bonding of the closing flap 7.

To seal bag 6, protective liner 5 is removed and the closing flap 7 is applied with a small pressure to adhesive mass 4.

Opening of the bag cleaves support 2 into two parts 8 and 9. Cleaved part 8 appears in blue and cleaved part 9 in yellow, thus revealing the opening of bag 6. Cleaved parts 8 and 9, no adhesives, can not be bonded to themselves again.

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Double face adhesive tape according to the invention especially finds its application as safety adhesive tape for the closing and sealing of confidential mail, packaging containing food or pharmaceutical products and for fixing labels or identification marks.

Another use of this double face adhesive tape is the temporary bonding of different objects or packaging which must be rapidly and easily separated without deteriorating said packaging.

The easiness to produce such adhesive tape as well as its low cost are other advantages which allow one to distinguish it from other devices and means allowing one to actually guaranty the inviolability of the closing systems with bonding.

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## CLAIMS

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1. Cleavable double face adhesive tape characterized by the fact that it is made up with low cohesion support, coated on each one of both surfaces with adhesive mass whose adhesion power is greater than the support cohesion.
2. Double face adhesive tape according to claim 1, characterized by the fact that the support is made up with low cohesion synthetic foam band especially a polyethylene or polyurethane foam.
3. Double face adhesive tape according to claim 1, characterized by the fact that the support is made up with low cohesion non-woven band.
4. Double face adhesive tape according to any one of the claims 1 to 3, characterized by the fact that the support has a thickness ranging between 0.5 mm and 1.5 mm.
5. Double face adhesive tape according to any one of the claims 1 to 4, characterized by the fact that adhesive masses are dyed.
6. Double face adhesive tape according to claim 5, characterized by the fact that each one of both surfaces is coated with dyed adhesive mass having different colors, especially complementary colors.
7. Use of a double face adhesive tape according to any one of claims 1 to 6, as safety tape

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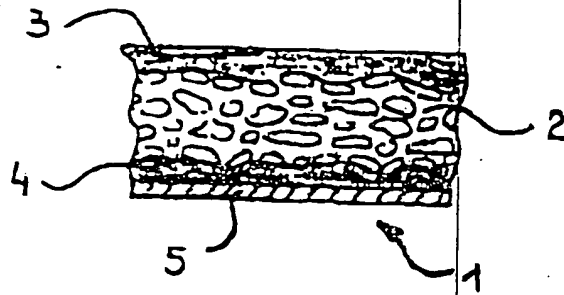


Fig. 1

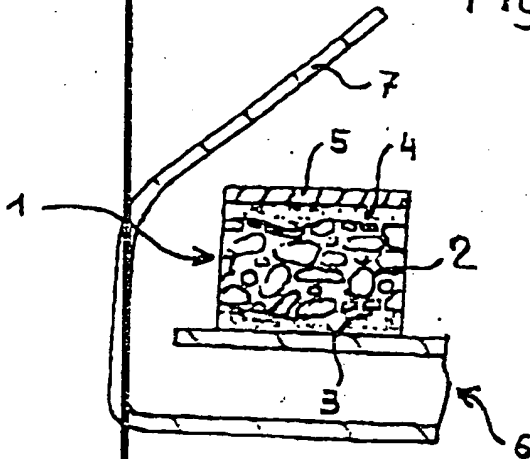


Fig. 2

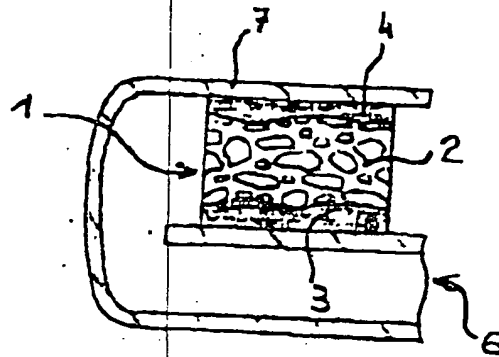


Fig. 3

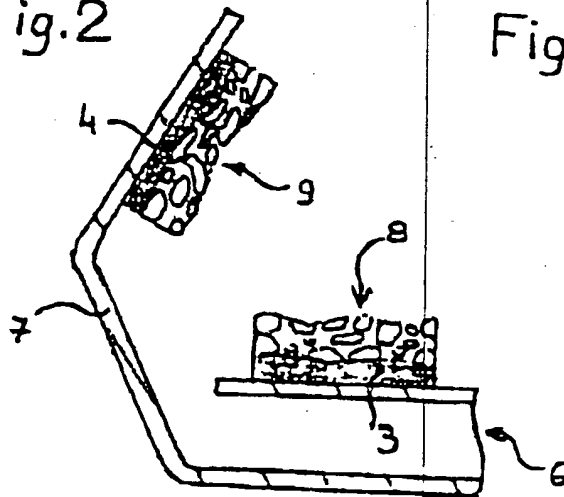


Fig. 4

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SEARCH REPORT  
established with the last claims deposited before  
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FR 444749

DOCUMENTS CONSIDERED AS RELEVANT		Related claims of the examined application												
Category	Citation of document, with indication, where appropriate, of the relevant parts													
Y	FR-A-1 449 743 (NATIONAL STARCH AND CHEMICAL CORP.) " Claims 1, 2a "	2												
Y	GB-A-1 044 023 (3M) " Claims 1-4 page 7, lines 102-103 "													
A														
A,D	US-A-4 876 23 (3M)													
		SEARCHED TECHNICAL FIELDS (INT.CL <sup>5</sup> )												
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Search completion date March 24, 1991		Examiner BUSCAGLIONE Y.												
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